

PMC-EF2a

(2.0+02)

**U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION**

**RECIPIENT:** Naknek Electric Association, Inc.**STATE:** AK

PROJECT TITLE : Southwest Alaska Regional Geothermal Energy Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
CDP 187.1	DE-EE0000263	GFO-09-423	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:**Description:**

C12 Siting, construction, and operation of energy system prototypes including, but not limited to, wind resource, hydropower, geothermal, fossil fuel, biomass, and solar energy pilot projects.

Rational for determination:

The Southwest Alaska Regional Geothermal Energy Project of Naknek Electric Association, Inc. (NEA) would demonstrate the potential geothermal energy resource. Congressional Directed Project 187.1, DOE Award No. DD-EE0000263 funding is specifically for a deep drilling program designed to confirm and evaluate commercial production of geothermal fluids by conventional means. The presence of a geothermal resource in the area has not yet been confirmed by drilling; therefore, the well (G2) would be designed to investigate conditions at various depth intervals. The project requires 1.4 miles new gravel road construction to connect the NEA allotment and the well site to the existing Lake Camp Road. A 300 ft x 300 ft gravel drill pad would be constructed to support drilling operations for G-2. In 2009, an exploration well (G1) was conducted to characterize the geophysical anomaly that could be associated with a geothermal reservoir. This included geophysical (seismic and resistivity) surveys and thermo-gradient exploratory drilling. An allotment area of approximately 120 acres was identified and selected by NEA for the initial drilling project.

The proposed three-year green field exploration program would consist of drilling and evaluating up to six wells for the production of geothermal fluids. All geothermal exploration wells would be drilled using the same design and operational procedures outlined, located and engineered based on the results of G1, and G2. Drilling equipment and operational services would be provided by geothermal exploration consultants and drilling contractors using best management practices, methods, equipment and technologies. The project would be divided into seven tasks:

Task 1.0 Conduct Environmental Assessment – Secure suitable EA contractor and enter into a Memorandum of Agreement with DOE, EA contractor, and Naknek. Go/no go decision point based on findings from EA.

Task 1.1 - Design of well G-2. In accordance with the target selection and analyses of previous results, a well design would be prepared.

Task 1.2 - Permitting and procurement for well G-2. The drilling program and associated documents would be submitted for permitting by Alaska DNR. The required services would be contracted, and all needed equipment and supplies would be mobilized to the site.

Task 1.3 - Drilling of well G-2. This well design should reach drilling depths on the order of 8,000 – 14,000 ft, in stages of different diameters, so that the maximum open-hole section would not exceed 5,000 feet at any given interval. This design would allow the well to be drilled quicker and safely in the presence of severe circulation loss. The upper portion of the hole would be completed with casing diameters that would minimize pressure losses due to friction during fluid production.

Task 2.0 – Collect and Analyze G-2 Logging/Core Data – Evaluate the suite of logs and core collected in G-2 in order to construct a velocity model, estimate rock strength, and determine the magnitude of the vertical stress. If required, run additional geophysical logs to determine fracture characterization, understand formation properties, and deduce the orientation of the stress field.

Task 2.1 - Heat-up temperature surveys. PTS logs would be run periodically (3 logs are planned over an 8-week

period) as the well heats up.

Task 3.0 - Reports and other deliverables would be provided in accordance with the Federal Assistance Reporting Checklist. In addition, reports would be prepared for presentation and publication at various meetings and symposia, as appropriate.

DOE must analyze the construction and installation of up to six geothermal wells (this determination includes drilling G3 (GFO-09-423-001), a connection action) with associated roads in funding the equipment for the Southwest Alaska regional Geothermal Energy Project for NEA according to the National Environmental Policy Act (NEPA). Existing and potential impacts are unknown at this time. Per the DOE NEPA implementing regulations (Appendix C to Subpart D to 10 CFR Part 1021 - C12, as noted above), preparation of an Environmental Assessment is required prior to allowing federal funds for this proposed project.

Condition: NEA is restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternative prior to DOE providing either a NEPA clearance or a final NEPA decision regarding the project.

NEPA PROVISION

DOE has not made a NEPA determination for this award, and funding for this award is contingent upon the final NEPA determination.

Insert the following language in the award:

You are restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternatives prior to DOE/NSA providing either a NEPA clearance or a final NEPA decision regarding the project.

Prohibited actions include:

NEA is restricted from taking any action using federal funds, which would have an adverse affect on the environment or limit the choice of reasonable alternative prior to DOE providing either a NEPA clearance or a final NEPA decision regarding the project.

This restriction does not preclude you from:

NEA is authorized to initiate the preparation of an EA by a third-party contractor, consistent with NEPA implementing regulations. DOE, NEA, and third-party contractor have entered into a Memorandum of Agreement (MOA) defining the scope of services to be completed by the third-party contractor on behalf of DOE.

If you move forward with activities that are not authorized for federal funding by the DOE Contracting Officer in advance of the final NEPA decision, you are doing so at risk of not receiving federal funding and such costs may not be recognized as allowable cost share.

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____

NEPA Compliance Officer

Date: 3/10/10

FIELD OFFICE MANAGER DETERMINATION

☒ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

- ☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- ☒ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____

Field Office Manager

Date: 3/12/10